

## ABSTRACT

5           The present invention is directed to systems and methods for producing  
microarrays of biological samples using an improved slide platform, vacuum manifold,  
and variable pin contact velocity. Slides onto which spotting pins produce the microarray  
of biological samples are secured on a flat slide platform using magnetic unit bars. The  
vacuum manifold effects optimal cleaning of the spotting pins by inducing increased air  
10 flow and turbulence. By reducing the velocity of the spotting pins before or after contact  
with the blot pad or the microarray slide, the morphology of biological samples deposited  
may be kept uniform. Similarly, low impact and separating velocities while acquiring  
biological materials prevent the pins from being overloaded with solution on the outside  
of the pin and causing sample wastage and non-uniform spotting.

15